

Amended Claims

Claims 1 to 6 (cancelled)

Claim 7 (new)

Metal-dielectric combination microwave probes for use in two-probe electro-mechanical, microwave load-pull tuners with a test port and an idle port, where said probes are surrounding the central conductor and are sliding over the central conductor of the slotted airline of said tuner and their position is controlled independently by means of a horizontal remote translation mechanism.

Claim 8 (new)

Metal-dielectric combination probes, as in claim 7, being made of cylindrical horizontal dielectric inserts, which slide on the central conductor of the slotted airline of electromechanical tuners, as in claim 7, said dielectric cylindrical inserts being, in turn, embedded inside a cylindrical opening inside a square metallic slug body, which said slug body slides inside and along the ground walls of the slotted airline, parallel to the central conductor.

Claim 9 (new)

Metal-dielectric combination probes, as in claim 8, with the external diameter of the cylindrical dielectric core of the probe varying between a maximum value of the width of the slot of the airline less 0.020" and a minimum value of the diameter of the central conductor of said slotted airline plus 0.020".

Claim 10 (new)

The metal-dielectric combination probes, as in claim 8, are manufactured in different diameters for the dielectric core with corresponding different

diameters for the openings of the housing metallic slugs, in order to allow for the dielectric cores to fit firmly in the opening of the metallic housing, slide freely on central conductors of slotted airlines and move together with the metallic housing as a single entity.

Claim 11 (new)

A calibration method for said electromechanical tuner used in claim 7, in which scattering parameters (S-parameters) are measured using a calibrated vector network analyzer (VNA) between the test and idle port of the tuner as a function of the combination of two sets of horizontal positions of the probes related to the test port of the tuner, and saved in a calibration data file for later use, said positions of the probes being chosen as follows: a first set of positions is selected where both probes move simultaneously away from the test port between zero and one half of a wavelength and a second set of positions where the first probe remains immobile closest to the test port and the second probe moves away from zero to one half of a wavelength, relative to the position of the first probe.